

ABSTRACT

An electromechanical filter capable of achieving overall miniaturization by employing a micro oscillator such as a carbon nanotube with superior conductivity so as to enable selection of signals of a predetermined frequency is provided. This apparatus is comprised of an inner wall 106 composed of carbon nanotube changing physically as a result of input of a signal, and an outer wall 108 composed of carbon nanotube arranged so as to cover inner wall 106 spaced by a microscopic gap G from inner wall 106. The outer wall 108 detects oscillation of inner wall 106 when a signal of a predetermined frequency is inputted from a connected signal input side electrode section 110 to inner wall 106 so that this signal is outputted via a connected signal output side electrode section 112.